Bankers on Boards, Financial Constraints, and Financial Distress*

Karlyn Mitchell
Department of Business Management
North Carolina State University
Campus Box 7229
Raleigh, NC 27695-7229

phone: 919.515.5593
e-mail: karlyn_mitchell@ncsu.edu

Mark D. Walker
Department of Business Management
North Carolina State University
Campus Box 7229
Raleigh, NC 27695-7229

phone: 919.513.0504
e-mail: mdwalker@ncsu.edu

January 2008

ABSTRACT

We investigate determinants of bankers' presence on boards of non-financial corporations, factors contributing to their appointments, and bankers' effect on leverage, investment, and Tobin's Q following board-appointments. We use a unique data set comprising financially-distressed, undistressed, constrained and unconstrained firms of all asset-sizes. We find bankers' board-presence and the likelihood of banker-board-appointments are positively related to size and negatively related to Q and a measure of financial distress. We find banker-directors contribute to leverage increases, especially for distressed firms; reduced (enhanced) investment at firms in high-growth (low-growth) industries; and lower Qs for all firms but especially financially-constrained firms.

* Preliminary and incomplete. Please do not quote.

Financial researchers have recently begun to investigate why non-financial corporations appoint commercial bankers to their boards of directors and what effects this choice has on corporate performance and shareholder wealth.[1] Following the suggestion of Fama and Jensen (1983) that outside directors contribute expertise and monitoring services, some researchers have sought to ascertain which of two needs better accounts for bankers' presence on boards: corporations' need for financial experts or their need for monitors of credit relationships (Booth & Deli, 1999; Byrd and Mizruchi, 2005). Other researchers presume banker-directors are appointed chiefly to monitor and address whether they monitor in the best interests of shareholders or of bankers' own employers, who may be creditors of the corporations (Kroszner and Strahan, 2001; Byrd and Mizruchi, 2005; Güner et al, 2006). Researchers have also considered whether banker-appointments are related to appointing corporations' financial conditions, specifically measures of financial constraint (Güner et al, 2006) and financial distress (Kroszner and Strahan, 2001; Byrd and Mizruchi, 2005; Ciamarra 2006). A few researchers have sought to explain board appointments by investigating the impact of banker-directors after their appointments dates, particularly the impact on leverage (Byrd and Mizruchi, 2005; Guner et al, 2006; and Ciamarra, 2006), investment (Güner et al., 2006), and corporate performance (Güner et al, 2006). Owing to the newness of this line of research, consensus has not yet been reached.

This paper seeks to contribute to the literature on banker-directors at non-financial corporations by addressing three research questions using a novel data-set. Specifically, we ask 1) What factors are related to the presence of bankers on non-financial corporations' boards of directors? 2) What factors contribute to the appointment of banker-directors? 3) What impact do banker-directors have on corporations' leverage, investment and value? Past researchers have suggested that financial conditions, particularly financial constraints and the likelihood of financial distress, are important determinants of banker-director appointments and of banker-directors' behavior post-appointment. But prior empirical work employs data only on very large

[1] See Yermack (2006) for a recent survey of the literature on corporate directors and valuation.

corporations, calling into question the generality of the research findings. To overcome this criticism we assemble a data-sample which includes corporations that are financially constrained, financially unconstrained, financially distressed, and financially undistressed drawn from the universe of Compustat firms with assets exceeding $5 million in 2002. We address our three research questions by using our sample to conduct empirical tests in three time-frames. To investigate factors related to bankers' presence on corporate boards, we treat our data-sample as a cross-section drawn at a point in calendar-time (2002) and use it to estimate probit models of bankers' presence on boards. To investigate the factors motivating the appointment of bankers to boards, we identify the appointment dates of banker-directors at our sample firms and move our analysis from calendar-time to event-time. We estimate probit models of the decision to appoint a banker to the board. To investigate banker-directors' impacts on policies and performance, we shift from the banker-appointment event to two- and three-year windows following this event. We estimate models of leverage, investment and firm-value to discern a measurable effect attributable to banker-directors.

To preview our results, we find with respect to our first research question that bankers' presence on boards is positively related to firm size and negatively related to Tobin's Q and a measure of financial distress. Although we find bankers are less likely to serve on boards of small corporations, they are more probable at small corporations the greater their degree of financial distress or constraint. With respect to our second research question, we find bankers are more likely to be appointed directors at large corporations and corporations with low Qs. We find no evidence that easing financial constraints or financial distress motivate corporations to appoint bankers to boards; instead, we find low proclivity for financial distress to be a motivating factor, although this is less so for large corporations. With respect to our third research question, we find evidence that banker-directors significantly impact corporations' leverage, investment and valuation in the years immediately following bankers' appointments. We find they raise leverage ratios for all firms, especially distressed firms, but find no evidence of a separate

leverage effect for constrained firms. Banker-directors appear to increase investment by constrained firms the year after appointment and shift the composition of investment in the two years after appointment, reducing investment by firms in high-Q industries and increasing it by firms in low-Q industries. We also find evidence that banker-directors reduce firm-value: Q declines between the end of the year preceding bankers' appointments and the ends of the two years following their appointments; the decline is especially acute for financially constrained firms. The preponderance of our evidence suggests that putting bankers on boards of non-financial corporations is not shareholder wealth-maximizing.

The rest of the paper is organized as follows. Section I briefly reviews the relevant literature. Section II describes our methodology, details the construction of our data-sample, and presents descriptive statistics. Section III presents and discusses our empirical results. Section IV summarizes and concludes our study and suggests avenues for future research.

I. Literature Review

A handful of studies have examined the motivations for and consequences of commercial banker-directors beginning with Booth and Deli (1999), who address whether firms' demand for expertise or monitoring services better explains bankers' presence on boards. They estimate logit models of the probability that a corporate board includes a banker-director using 1990 data on non-financial S&P 500 firms. They find leverage to be positively related to the presence of an unaffiliated banker-director (one whose employer is not a creditor of the corporation) but unrelated to the presence of an affiliated banker-director. Booth and Deli conclude that demand for expertise better accounts for bankers on boards than the demand for monitoring services.

Kroszner and Strahan (2001) address whether firms and banker-directors trade off the benefits and costs of bank monitoring. Firms benefit from banker-directors because they certify integrity of monitoring on behalf of creditors; banker-directors benefit by gaining insight into the firm's industry. Costs are two-fold: conflicts of interest when a banker-director is affiliated and

exposure of the affiliated bank to litigation from other creditors in the event the firm becomes financially distressed. Kroszner and Strahan estimate models of banker board-presence using 1992 data on non-financial Forbes 500 companies. To index the proclivity for financial distress they include as explanatory variables the standard deviation of monthly stock-price returns for the four years preceding 1992 and the square of this variable. Kroszner and Strahan find that as stock-price volatility rises the probability of a banker-director increases initially, then peaks and declines, consistent with their trade-off hypothesis.

Byrd and Mizruchi (2005) revisit and extend the expertise vs. monitoring debate, addressing whether affiliated banker-directors behave differently than unaffiliated banker-directors by pursuing their own interests over those of shareholders. Byrd and Mizruchi assemble a data sample on the 500 largest manufacturing firms in the late 1980s and use it to estimate three-stage least squares models of banker-directors' effect on debt and market equity in the year following their appointments to boards. They find that more financially distressed firms, as gauged by the Z-score of Altman (1968), have boards with lower proportions of banker-directors. Additionally, they find that unaffiliated banker-directors increase debt levels in the year following their appointments, especially at less distressed firms, a result they interpret as evidence that banker-directors provide financial expertise and monitoring. They also find that affiliated banker-directors reduce debt levels and firm value regardless of Z-score, a result they interpret to mean that affiliated banker-directors put employers' interests ahead of shareholders'.

Ciamarra (2006) extends Byrd and Mizruchi by focusing on how affiliated banker-directors at S&P 500 companies affect firms' borrowing. Ciamarra estimates simultaneously models of bankers' presence on boards and firm leverage using 2000-2002 data. She finds leverage to be positively related to bankers' presence on boards, but only affiliated banker-

directors reduce the sensitivity of leverage to tangible assets and lower borrowing costs, results she interprets as being consistent with banker-directors' monitoring.[2]

Güner et al. (2006) shift the research focus from whether banker-directors supply expertise and monitoring to whether they promote productive investment by reducing financial constraints. They estimate models of investment and loan-size and track Tobin's Q for 288 Forbes 500 firms from 1988 to 2001. They index a corporation's degree of financial constraint using the "KZ" measure developed by Kaplan and Zingales (1997). The preponderance of Güner et al.'s evidence suggests affiliated banker-directors facilitate investment and borrowing at financially unconstrained firms but fail to enhance performance as measured by Q. Like Byrd and Mizruchi (2006), Güner et al. conclude affiliated banker-directors appear not to promote shareholders' interests.

II. Data and Methodology

Investigating our three research questions poses methodological challenges due to shifting time frame and data collection challenges due to the need for hand-collected data. Our first research question – what factors are related to the presence of bankers on boards – concerns a cross-section of firms at a point in time. Our second question – what factors lead to the appointment of banker-directors – pertains to an event (the appointment of a banker-director) which occurs at different times for different firms and does not occur at all for a set of control firms. Our third question – how do banker-directors influence leverage, investment and firm value – relates to the years following bankers' board appointments. To address all three questions we need a sample of firms that exhibits diversity with respect to degree of financial distress and financial constraint, firm size and presence of bankers on boards. Data are readily available to draw a diverse sample with respect to distress, constraint and size but data must be hand-collected

[2] Like Byrd and Mizruchi (2005) Ciamarra uses Altman's Z to index firms' proclivity for financial distress. She finds that the likelihood of a banker-director on a board is unrelated to Z-score.

to draw a diverse sample with respect to the presence of banker-directors. We describe the construction of our data sample in section A and provide descriptive statistics and comparative regressions in section B. We discuss the methodology used to address our research questions in section C.

A. Sample

Starting with the 2,746 Compustat firms having complete data for our explanatory variables and at least $5 million in assets in 2002 we draw a sample in two steps as illustrated in Figure 1. In step one we draw distressed and undistressed firms based on Ohlson's O-score (Ohlson, 1980), a direct measure of the probability of bankruptcy, with higher O-scores indicative of greater probabilities of bankruptcy.[3] Ohlson's O-score, T, is defined in equation (1).

$$T = -1.32 - .409 * \ln(TA_t) + 6.03*(TL_t/TA_t) - 1.43*(WC_t/TA_t) + .076*(CL_t/CA_t) - 1.72*(X) - 2.37*(NI_t/TA_t) - 1.83*(FFO_t/TL_t) + .285*(Y) - .521*[(NI_t - NI_{t-1})/(|NI_t| - |NI_{t-1}|)] \quad (1)$$

where:

TA = Total Assets	CA = Current Assets;
TL = Total Liabilities	X = 1 iff TL>TA, 0 otherwise
WC = Working Capital	NI = Net Income;
CL = Current Liabilities	FFO = Funds from Operations

Y = 1 if a net loss for the last two years, 0 otherwise

We sort the Compustat firms by O-score, form O-score quintiles, and drop the inner quintiles, leaving the top quintile (high-O-score, financially-distressed firms) and bottom quintile (low-O-score, financially undistressed firms). We re-sort firms in the two quintiles by total assets and form asset size deciles. Finally, we draw at random 12 firms per size decile, yielding 120 distressed firms and 120 undistressed firms, sub-samples which resemble the populations of distressed and undistressed firms in the distribution of total assets.

In step two we return to our original 2,746-corporation universe and draw constrained and unconstrained firms. We measure constraint using KZ-score, a measure developed by

[3] We use O-score in preference to Altman's Z-score (Altman, 1969) because Begley, Ming, and Watts (1996) find greater support for O-score as a predictor of bankruptcy during their study period, the 1980s.

Kaplan and Zingales (1997) and employed subsequently by Baker, Stein and Wurgler (2003) and Lamont, Polk and Saa Requejo (2001). Higher KZ-scores indicate greater degrees of financial constraint. KZ-score is computed as shown in equation 2.

$$KZ = -1.001909*[(INCBE + DEP)/PPE] + .2826389*[(TA+ME-CE-DT)/TA] + 3.139193*[(LTD+DCL)/(LTD+DCL+SE)] - 39.3678*[(CDIV+PDIV)/PPE] - 1.314759 * (CASH/PPE) \quad (2)$$

where:

INCBE = Income Before Extraordinary Items	LTD = Long Term Debt
DEP = Depreciation and Amortization	DCL = Debt in Current Liabilities
PPE = Property, Plant and Equipment	SE = Shareholder's Equity
ME = Market Value of Equity	CDIV = Common Dividends
CE = Common Equity	PDIV = Preferred Dividends
DT = Deferred Taxes	CASH = Cash and Short Term Investments

As in step one we sort the Compustat firms by KZ-score, drop the inner quintiles and keep the top quintile (high-KZ-score, financially-constrained firms) and bottom quintile (low-KZ-score, financially-unconstrained firms). Firms that are financially distressed tend also to be financially constrained, but the reverse need not hold. In order to focus on constraint independently of distress we drop firms that rank in both the top KZ-score and top O-score quintiles; for symmetry we do the same for firms ranking in both the bottom KZ- and O-score quintiles. Finally, we sort corporations in the outside quintiles by total assets, form asset-size deciles, and randomly select 12 firms per decile, yielding 120 constrained and 120 unconstrained firms.

For each of our 480 sample firms we hand-collect data on their directors from proxy statements and 10-Ks filed for fiscal 2002. We define a narrow-definition banker-director as a director who is also currently an employee of a commercial bank. We define an extended-definition banker-director as a director who is a retired commercial banker, former commercial banker, or currently a director at a commercial bank. Combining these data with Compustat data completes our data set.

A separate methodological issue is the handling of across-industry differences in firms' financial characteristics. Most researchers deal with industry-effects by introducing industry dummies (e.g. Kroszner and Strahan, 2001; Güner et al, 2005; and Ciamarra, 2006). Instead, we

industry-adjust individual explanatory variables by subtracting from observations on a variable in a given year the industry-median value of the variable in the same year, with the industries defined by 3-digit SIC codes. In our second and third research questions calendar time becomes an issue. Industry-adjusting our variables orthogonalizes them with respect to time.

B. Descriptive Statistics and Comparative Regressions

Table 1 shows mean book-assets and mean proportions of firms with banker-directors by asset-size decile and financial condition. All four condition types – distressed, undistressed, constrained and unconstrained – include firms ranging from very small to very large. In every decile the average distressed (constrained) firm is smaller (larger) than the average firm in the other three categories. The average firms in the 9^{th} and 10^{th} asset-size deciles are substantially larger than the average firms in the lower deciles for all four condition-types. Banker-directors are found on the boards of firms of all sizes. Bankers are distributed almost uniformly among the deciles for distressed firms, and somewhat less uniformly for undistressed and constrained firms. At unconstrained firms banker-directors are found only on the boards of the largest corporations. Extended-definition bankers are as prevalent or are more prevalent than narrow-definition bankers on boards of non-financial corporations.

Table 2 presents sample statistics on financial condition and directors for the entire sample and for the four financial-condition-type sub-samples. Constrained firms exhibit higher mean and median KZ-scores than unconstrained firms, as expected from our sample design; analogous statements apply to O-score and distressed and undistressed firms. Univariate tests show distressed firms to be significantly more constrained than undistressed firms but evidence that constrained firms are more distressed than unconstrained firms is weaker. Distressed and undistressed firms show no difference in the prevalence of (narrowly-defined) banker-directors, but extended-definition bankers are more common at undistressed firms. Constrained firms have more narrow- and extended-definition banker-directors than unconstrained firms.

The last two columns in Table 2 show statistics for S&P 500 and non-S&P500 firms in our sample, a stratification that highlights the uniqueness of our sample compared with prior studies that sample only S&P 500-size firms. Our S&P 500 firms are more constrained than smaller firms but significantly less distressed. About 25% of our S&P 500 firms have boards with (narrowly-defined) bankers, identical to the average reported by Güner et al. (2006) for S&P 500 firms in the last twenty years. Although fewer non-S&P 500 firms have narrow-definition bankers – about 10% – the proportion is non-trivial. Three-quarters of S&P 500 firms have extended-definition banker-directors, about twice the proportion for non-S&P500 firms.

To further benchmark our sample data we use it to produce estimates of models first proposed by prior researchers: we estimate probit versions of models of bankers' presence on boards reported by Booth and Deli (1999; Table 3, p. 238) and Kroszner and Strahan (2001, Table 3, (iv), p. 427) and report the results in our own Table 3. Booth and Deli found banker board-presence at S&P 500 firms to be positively related to firm-size, leverage and an indicator variable for the utility industry but unrelated to Q. We find banker-board presence at our S&P 500 firms to be unrelated to size and leverage but negatively related to Q (equation 3.1). At non-S&P 500 firms we find banker board-presence to be positively related to size, leverage and the utility-industry indicator, like Booth and Deli, but none of the estimated coefficients is significant at conventional levels; also, Q continues to be negatively related to the presence of a banker (equation 3.2). Kroszner and Strahan found the presence of a banker-director to be positively related to firm size, the ratio of tangible assets to total assets, and the standard deviation of monthly stock returns in the past four years (STD DEV); negatively related to the square of STD DEV and the ratio of short-term to total debt; and unrelated to leverage and access to the commercial paper market. We find banker-directors' presence on the boards of S&P 500 firms to be unrelated to these variables at conventional significance levels (equation 3.3). Our S&P 500 firms do exhibit Kroszner and Strahan's key result: positively- and negatively-signed coefficient estimates for STD DEV and squared STD DEV, respectively. Our non-S&P 500

firms exhibit the opposite pattern of signs and the estimated coefficients are statistically significant (STD) or nearly so (squared STD DEV; equation 3.4). We conclude that our data sample produces some of the estimated relationships found by other researchers. For S&P 500 firms, differences between previously published results and ours may owe to differences in calendar time and the design of our sample. Differences in model estimates produced by the S&P 500 and non-S&P 500 subsamples call into question the generality of previously published research.

Table 4 presents univariate statistics for the variables appearing in our subsequent regressions, stratified by the absence or presence of a banker on the board. Univariate statistics are reported for the variables that define KZ- and O-score as well as the KZ- and O-score measures themselves. Since all regressions we report use industry-adjusted data computed by subtracting from firm-level observations the median value of the variable for the firm's 3-digit SIC industry, we report means and medians of industry-adjusted variables. As detailed in the next section, our models of banker-board presence (Table 5) use 2001 data for the explanatory variables and 2002 data for the dependent variable. Compared with non-banker firms, firms with (narrowly-defined) banker-directors are larger than their industry medians, hold lower current ratios, earn greater net income scaled by tangible assets, and generate greater funds flow from operations. Similar statements apply to firms with extended-definition bankers on their boards. The explanatory variables in our models of banker-director appointments (Table 6) and their impact on policies and performance (Tables 7 – 10) are defined using 2001 data for non-banker firms and data from the year before bankers' appointments for our banker firms. Firms that appointed banker-directors are larger and have greater funds flow from operations, relative to industry medians, in the year prior to appointment than the control firms that lack banker-directors. Similar statements apply to firms that appointed extended-definition banker-directors. In addition, firms that appointed extended-definition banker-directors have lower O-scores in the year prior to appointment than firms without banker-directors.

C. Methodology and Models

To address our first research question, what factors are related to the presence of a banker on the board of directors, we follow Booth and Deli (1999) and Kroszner and Strahan (2001) by estimating models of the form:

$$\text{Probability (BANKER = 1)} = a + S\,?_i\,X_i + e \qquad (3)$$

where BANKER is an indicator variable for a banker-director in fiscal year 2002 and the Xs are explanatory variables defined on Compustat data for 2001, to minimize endogeneity problems. We estimate probit versions of (3). To ascertain the relationship of financial distress and financial constraint to the presence of banker-directors, we include O-score and KZ-score among the Xs.

To address our second research question, what factors drive the appointment of banker-directors, we re-estimate (3) after some adjustments. We redefine BANKER to be an indicator for the appointment of a banker to the board. For firms with banker-directors in 2002, we identify the year in which the banker was first appointed using proxy statements and 10Ks; the appointment year is the "base year" for firms with banker-directors in 2002.[4] We take Compustat data from the fiscal year prior to the base year, define our explanatory variables and industry-adjust them (the Xs). For firms with no banker-directors in 2002, we define 2002 as the base year; these firms constitute our control group (i.e., BANKER = 0). We compute industry-adjusted explanatory variables for these control firms using 2001 data. By defining our explanatory variables as deviations in firm-level observations from industry medians we avoid econometric problems from using data drawn from different time periods.

Our third research question, what impact do banker-directors have on leverage, investment and firm value following their appointments, leads us to estimate OLS models of changes in these variables. Specifically we estimate models having the form:

[4] In the year a banker was appointed we also checked whether the board included any other banker-directors. For no firm was this the case.

$$Y_t - Y_{-1} = a + ß\ B + S\ ?_i\ X_i + e, \quad t = 1,2 \qquad (4)$$

where $Y_t - Y_{-1}$ is the (industry-adjusted) change in leverage, investment or firm value measured from the start of the base year (equivalently, the end of the year preceding the base year, t = -1 in equation 4 and year(-1) in Tables 7 – 10) to the end of the year following the base year for the two-year change, or the end of the next year for the three-year change (t = 1,2 respectively in equation 4, and year(+1) and year(+2), respectively, in Tables 7 – 10). The base year is the appointment year for firms that appointed banker-directors, and 2002 for the (control) firms that did not. In equation (4), B is a variable representing the appointment of a banker-director and the Xs represent other (industry-adjusted) explanatory variables.

Estimating equation (4) requires us to address the issue of endogeneity. If B is simply an indicator variable of the appointment of a banker-director, estimates of (4) are potentially biased because B and the dependent variable are both endogenous. We mitigate this problem by using an instrumental variable approach. Specifically, we use an estimate of (3) from our second research question to generate predicted values of the probability of appointing a banker-director for every sample firm; we use these predicted values as our observations on the B variable when estimating (4)[5].

III. Empirical Results

A. What factors are related to the presence of bankers on corporations' boards of directors?

Table 5 presents our estimated probit models of the probability that a board of directors includes a narrow-definition banker (equations 5.1 – 5.4) or a banker defined either narrowly or broadly (equation 5.5). The explanatory variables in (5.1) and (5.5) appear in the equations that define KZ- and O-score (equations 1 and 2). Estimates of (5.1) and (5.5) indicate that bankers are more likely present on boards of larger firms and firms with lower current ratios and Qs. In

[5] Guner et al (2006) also experiment with an instrumental variable approach. Byrd and Mizruchi (2005) use three-stage squares and Ciamarra (2006) uses the average treatment effects approach.

addition, narrow- plus extended-definition bankers are more likely on boards of firms with greater net income and funds from operations. No other explanatory variable is statistically significant at conventional levels.

In equation (5.2) we drop the determinants of KZ and O – except for the firm-size variable, LN(TA) – and replace them with KZ and O; in addition we include interaction terms. The degree of financial constraint is unrelated to the presence of a banker-director. Financially-distressed firms are less likely to have a banker-director but this effect is mitigated by firm size: the larger the distressed firm, the more likely is a banker on the board.

In equation (5.3) we consider the existence of threshold effects. We replace the continuous firm-size variable LN(TA) with SMALL, an indicator variable for below-sample-median assets. We retain KZ- and O-score and add the indicator variables CONSTRAIN and DISTRESS to identify high-KZ and high-O firms, respectively. We also include terms for interactions among the variables. Bankers are less likely to sit on boards of small firms, but small financially-constrained or financially-distressed firms are more likely to have a banker-director than other small firms.

Estimates of equations (5.2) and (5.3) appear to convey somewhat different stories. The estimate of (5.2) implies the presence of a banker-director is positively related to firm size and negatively related to financial distress, although greater size mitigates the influence of distress. The estimate of (5.3) also implies a positive relation between banker-board presence and firm size, but now any deterring influence of distress is mitigated by smaller firm size; in addition, constrained small firms are more likely to have a banker-director. One possible explanation for these seemingly inconsistent results is that the estimated models capture different motivations for bankers serving on boards at different ends of the firm-size spectrum: bankers may serve as directors at large firms, even if distressed, due to the lure of lucrative bank-client relationships; bankers may also be motivated to serve as directors at small, distressed or constrained firms because these firms are in need of financial expertise and monitoring.

Equation (5.4) adds to equation (5.3) the standard deviation of monthly stock returns, STD DEV, and the square of STD DEV, variables found by Kroszner and Strahan (2001) to be highly significant in their models of banker board-presence. Remembering our result from Table 3 that the estimated coefficients of STD DEV and STD DEV-squared have opposite algebraic signs for large and small firms, we form interactions among SMALL, STD DEV and STD DEV^2. The estimated coefficients of all four interaction terms are highly insignificant; estimated coefficients of the remaining variables are little different than in equation (5.3). Kroszner and Strahan introduced STD DEV and STD DEV^2 into their models to proxy financial distress. We conclude that the influence of financial distress on banker board-presence is well captured by O-score and DISTRESS.

Our results corroborate some prior research findings while contravening others. Prior research suggests banker board-presence is positively related to firm size (Booth and Deli, 1999, and Kroszner and Strahan, 2001), although not all prior research has found this relationship (Ciamarra, 2006). Prior research also suggests a positive relationship between banker board-presence and leverage (Booth and Deli, 1999, and Ciamarra, 2006) although some researchers find no relationship (Kroszner and Strahan, 2001), as do we. Previous research has found Q to be both unrelated to bankers' presence on boards (Booth and Deli, 1999) and positively related to bankers' board-presence (Ciamarra , 2006). We find a strong, consistent, negative relationship. Only Ciamarra (2006) tests whether a measure of financial distress (Altman's Z-score) is associated with bankers' board-presence; she finds no relationship. We find greater financial distress (as measured by Ohlson's O-score) is negatively related to bankers' board presence. The most probable explanation for differences in research findings is the difference in samples: the previously cited studies draw samples from S&P 500 or Forbes 500 companies whereas our study uses a more general data set.

B. What factors contribute to the appointment of bankers to corporations' boards of directors?

Table 6 reports our estimated models of the decision to appoint a banker to a board. As describe in IIC above, for firms that appointed bankers the explanatory variables are generated from data for the year before the appointment. Thus in contrast to the Table 5 estimates, the Table 6 estimates are free from possible endogeneity bias because the explanatory variables cannot reflect the influence of the banker-director. We re-estimate the models reported in Table 5. In equations (6.1) – (6.3) the dependent variable is the probability of appointing a narrow-definition banker to the board; in equation (6.4) the dependent variable includes both narrow- and broad-definition bankers.

Equations (6.1) and (6.4) model the probability of appointing a banker-director as functions of the variables defining KZ- and O-score. The probability of appointing a narrow-definition banker is positively related to firm-size and negatively related to Q, similar to Table 5 (equation 6.1). The probability of appointing a narrow- or broad-definition banker is positively related to firm-size but unrelated to Q (equation 6.4); lower current ratios, declining net incomes and growing funds from operations also increase the probability of appointing a narrow- or broad-definition banker. We use the estimate of equation (6.1) to generate predicted values of the probability of appointing a banker-director, our instrumental variable for banker board-presence in later regressions.

In equation (6.2) we replace the KZ- and O-score determinants with KZ and O themselves; we retain the firm-size variable, LN(TA), and add interaction terms. The estimates of (6.2) and (5.2) are nearly identical. Banker-director appointments are more probable at larger firms. Financial constraints play no discernible role in the decision to appoint a banker-director. Greater financial distress reduces the probability of appointing a banker-director, but this effect is mitigated by greater firm size.

In equation (6.3) we consider possible threshold effects by replacing LN(TA) with the indicator SMALL and re-introducing the indicators CONSTRAIN and DISTRESS along with

interactions between SMALL, CONSTRAIN and DISTRESS. Only the estimated coefficient of SMALL is statistically significant: small firms are less likely to appoint bankers to their boards.

A comparison of the estimates in Tables 5 and 6 provides some evidence on the importance of dealing carefully with endogeneity. In Table 5 the explanatory variables, computed from 2001 data, are potentially endogenous at firms with banker-directors appointed before 2001 because their appointments enabled them to influence corporate policy. In Table 6, the explanatory variables cannot be endogenous at firms that appointed bankers because they are measured on data prior to bankers' appointments. Although similarity in the estimates of (5.2) and (6.2) suggest endogeneity may be of little practical significance, estimates of (5.3) and (6.3) are dissimilar. The statistical insignificance of the estimates of SMALL * CONSTRAIN and SMALL * DISTRESS in equation (6.3) but not equation (5.3) could occur if constraint and distress do not motivate the appointment of banker-directors at small firms and if banker-directors effectively increase constraint and distress after their appointments. We investigate this possibility in later regressions.

The estimated models reported in Table 6 corroborate some prior research but also break new ground. Both Kroszner and Strahan (2001) and Byrd and Mizruchi (2005) examine the role of financial distress in the appointment of bankers to boards. Kroszner and Strahan conclude from their estimates of Kaplan and Minton's (1994) model on a sample of Forbes 500 firms that financial distress does not motivate the appointment of banker-directors. Byrd and Mizruchi conclude for their sample of large manufacturing firms that decreasing financial distress increases the fraction of banker-directors appointed to boards, a finding similar to ours. They also find firm-size to be either unrelated or negatively related to the probability of appointing a banker-director, whereas we find a positive relationship. We are unaware of prior research on financial constraint as a factor motivating appointments of bankers to boards of non-financial corporations, and although Guner et al (2006) imply that affiliated banker-directors are appointed to boards of

financially unconstrained firms, they do not present empirical evidence supporting this claim. We find no evidence that financial constraint motivates the appointment of banker-directors.

C. What impact do banker-directors have on corporations following their appointments?

Once appointed to boards, banker-directors potentially influence all aspects of corporate policy. We investigate their influences on KZ- and O-scores, leverage, investment, and Tobin's Q by estimating OLS models of the changes in these variables following a banker's board-appointment analogous to equation (4). Changes in dependent variables are measured over 2- and 3-year windows. For firms that appointed banker-directors, the base year is the appointment year and windows run from the start of the base year to the end of the year after the base year (2-year change) or two years after the base year (3-year change). For firms that did not appoint banker-directors the base year is 2002 and windows run from the start of 2002 to the end of 2003 or 2004. All explanatory variables are industry-adjusted. Our banker variable, BANKER(PRED), is the predicted probability of appointing a banker to the board from equation (6.1) in Table 6.

C.1. What impact do banker-directors have on KZ- and O-scores?

Table 7 reports estimated OLS models of changes in KZ- and O-scores. Estimates in Panel A were produced from observations on 345 firms having no banker-directors plus 45 firms that appointed narrow-definition bankers; adding 95 observations on firms that appointed broad-definition bankers and re-estimating produced the estimates reported in Panel B.

The appointment of narrow-definition banker-directors appears to have no immediately discernible impact on O-score (Panel A, equations (7.1) and (7.2)). The estimated coefficients of BANKER(PRED) are negatively signed but statistically insignificant in both the two- and three-year change models; the estimated coefficients of O-score * BANKER(PRED) are also insignificant in both models. Instead, deviations in O-scores from the industry medians dissipate as a result of managerial actions unrelated to the appointment of banker-directors: 12 months (24

months) after the base year, 42% (56%) of the deviation from the industry median has disappeared.

Evidence that banker-directors reduce O-scores emerges when observations on extended-definition bankers are added to the sample (Panel B, equations (7.5) and (7.6)). The estimated coefficients of BANKER(PRED) imply that adding a banker to a board (increasing the probability of a banker-director appointment from zero to one) reduces O-score by 3.85 (3.48) by the end of the two-year (three-year) event window, slightly more than the difference between the sample-median O-score and the median O-score of financially-undistressed firms. The reduction in O-score is greater at financially-distressed firms: the estimated coefficients of O-score * BANKER(PRED) are negative and significant in both the 2- and 3-year change models. The O-score-reducing effect of appointing a banker-director is less for firms with greater KZ-scores.

Estimated KZ-change models indicate that appointing a narrowly-defined banker-director increases the degree of financial constraint non-linearly and temporarily (Panel A, equations (7.3) and (7.4)). In equation (7.3) the estimated coefficients of BANKER(PRED) and KZ-Score * BANKER(PRED) are both positive and statistically significant. The estimated coefficients imply that for a firm with a KZ at the start of the base year equal to the sample-mean KZ of -4.8, appointing a banker to the board (increasing the probability of a banker-director appointment from zero to one) increases KZ by 28.5 twelve months hence, roughly 170% of the difference in the mean KZs of constrained and unconstrained firms. This effect is short-lived, however: the estimated coefficients of BANKER(PRED) and KZ-Score * BANKER(PRED) in the three-year change model, equation (7.4), are statistically insignificant.

Evidence that banker-directors increase financial constraint is strengthened when the definition of a banker is broadened to include extended-definition bankers (Panel B, equations (7.7) and (7.8)). The estimated coefficients of BANKER(PRED) are positive and statistically significant in both the two- and three-year change models, although the estimated coefficients of KZ-Score * BANKER(PRED) are both insignificant. Now appointing a banker to a board

(increasing from zero to one the probability of appointing a banker-director) raises KZ by about 20 two years after the appointment, slightly more than the difference in the mean KZs of constrained and unconstrained firms.

Evidence that banker-directors impact measures of distress and constraint is stronger when the broader banker definition is used, a result having at least two possible interpretations. One possibility is that extended-definition banker-directors influence corporate policy more strongly than narrow-definition bankers. Another is that narrow- and extended-definition bankers are similar in their influence but the models estimated on data for narrow-definition bankers only are estimated less precisely due to the smaller number of observations. Although we favor the latter interpretation, we cannot rule out the former.

The results reported in Table 7 are without parallel in the existing literature, to the best of our knowledge. Although prior researchers have hinted that bankers influence firms' financial distress and constraint after becoming directors, none have gone as far as estimating models of change in distress and constraint measures having appointment of a banker-director as an explanatory variable. Our results suggest that banker-directors reduce firms' financial distress but increase their financial constraint.

C.2. What impact do banker-directors have on debt-equity ratios?

Table 8 reports estimated OLS models of changes in (industry-adjusted) book-value debt-to-equity (D/E) ratios measured over 2- and 3-year event windows. To control for differences in growth opportunities, tangibility of assets and size among the sample firms we include industry-median Q, property, plant and equipment scaled by total assets, and the log of total assets as explanatory variables, along with the leverage ratio, KZ- and O-Score, BANKER(PRED), and interaction terms. Equations (8.1) and (8.2) were produced by estimating models on data for firms with boards having no bankers and firms that appointed narrow-definition bankers in the base

year; equations (8.3) and (8.4) were produced after adding observations on firms that appointed extended-definition bankers in the base year.

Equations (8.1) and (8.2) suggest that appointing a narrow-definition banker increases a firm's leverage ratio two and three years following the appointment. The positive and statistically significant estimated coefficients of BANKER(PRED) imply that appointing a banker to a board increases debt per dollar of equity by $1.14 ($0.77) one year (two years) thereafter, ceteris paribus. The leverage increase is greater at financially-distressed firms: the estimated coefficients of O-Score * BANKER(PRED) are positive and statistically significant in both equations. They imply a banker-director appointment increases debt per dollar of equity at a firm with an O-Score equal to the median for distressed firms by an additional $1.13 ($0.80) two years (three years) after the appointment. Appointing a banker-director raises the leverage ratio less at financially undistressed firms, the estimated net increase in debt per dollar of equity being about $0.31 ($0.19) one year (two years) after appointment at a firm with an O-score equal to the median for undistressed firms. Appointing a banker-director does not lead to additional leverage increases at financially constrained firms: the estimated coefficients of KZ-Score * BANKER(PRED) are statistically insignificant in both equations.

Increases in book-value leverage ratios following banker-director appointments may occur because bankers-directors facilitate borrowing or reduce book-value equity. In unreported OLS regressions of changes in debt- and equity-levels two and three years from the start of the base year, we find evidence that appointing bankers to boards reduces book-equity but has no effect on debt levels.

Estimates of the remaining coefficients in equations (8.1) and (8.2) accord well with intuition. The coefficient estimates of median industry Q are positive and statistically significant in both equations, a result consistent with firms in higher-Q industries increasing leverage in preparation for exploiting growth opportunities. Coefficient estimates of the firm-size variable LN(TA) are also positive and significant in both models, as might be expected if greater size

encourages borrowing by reducing the expected costs of financial distress. The estimated coefficients of the leverage ratio, D/E, are statistically significant, negative and equal to about 0.79 in both the equations, suggesting that managerial initiatives unrelated to banker-director appointments reduce leverage ratios towards the industry medians over time.

The leverage-enhancing effect of appointing bankers to boards is corroborated by equations (8.3) and (8.4), which were produced after adding to the estimation sample observations on firms that appointed extended-definition bankers. The estimated coefficients of BANKER(PRED) are still positive and significant but roughly half as large as in the narrow-definition banker models. Leverage increases are still greater at more financially distressed firms, but this effect is now unrelated to the appointment of a banker-director (the estimated coefficients of O-Score and O-Score * BANKER(PRED) and are positive and significant and insignificant, respectively). Unreported regressions again suggest that banker-director appointments result in book-equity decreases rather than borrowing increases.

The results reported in Table 8 share some similarities with findings of Byrd and Mizruchi (2005), the only other study we know of that analyzes how appointments of bankers to boards affects leverage in a subsequent year. Their two models which most closely resemble ours measure leverage as book-debt to book-debt-plus-market-equity and book-debt to book-assets (Table 11, equations B1 and B2). They find appointments of unaffiliated banker-directors subsequently increase both leverage measures at large manufacturing firms, with greater increases at more financially distressed firms as measured by Altman's Z-score. Whether these leverage increases represent borrowing increases is unclear. The appointment of affiliated bankers has no discernible impact on either leverage ratio. Byrd and Mizruchi obtain their results from a sample of large manufacturing firms. We find from our more diverse data sample that banker-director appointments raise leverage ratios at all firms, especially financially distressed firms, mainly by reducing equity.

C.3. What impact do banker-directors have on investment?

Table 9 reports OLS estimates of two models of change in (industry-adjusted) investment to total assets, INV/TA. Estimates reported in Panel A were produced from observations on 345 firms having no banker-directors plus 47 firms that appointed to their boards bankers narrowly defined; adding 95 observations on firms that appointed extended-definition bankers produced the estimates reported in Panel B.

Narrow-definition bankers appear to affect the composition of investment after being appointed directors (Panel A). Although increasing financial constraint lowers investment two years after the base year without a banker-director (the estimated coefficient of KZ-Score is negative and significant in equation (9.1)), investment rises with increasing financial constraint at firms having a predicted probability of a banker-director appointment greater than 9% (the estimated coefficient of KZ-Score * BANKER(PRED) is positive and significant). This effect is not evident when the event window is extended to a third year: the estimated coefficients of all terms with BANKER(PRED) are insignificant in equation (9.2). Equations (9.3) and (9.4) replace the KZ, O and banker interaction terms with an interaction between BANKER(PRED) and industry Q. Appointing a banker-director (raising the probability of an appointment from zero to one) reduces investment more sharply over the two-year window the better the growth opportunities in the firm's industry (the estimated coefficient of Industry Q * BANKER(PRED) is negative and significant in equation (9.3)). Over the three-year event window, appointing a banker-director reduces (increases) investment at firms having industry-median Q greater than (less than) 1.32 (the estimated coefficients of BANKER(PRED) and Industry Q * BANKER(PRED) are positive and negative in equation (9.4), respectively). In summary, the estimated models suggest that appointing narrowly-defined bankers to boards increases investment at more financially constrained firms two years after bankers' appointments but reduces investment at firms in high-growth-opportunity industries two and three years after bankers' appointments. Adding observations on firms that appointed extended-definition bankers

and re-estimating the models yields similar results except the evidence that bankers facilitate investment by financially constrained firms becomes much weaker (Panel B, equations (9.5) and (9.6)).

The results reported in Table 9 are without direct parallel in the literature. Güner et al. (2006) also investigate the effect of banker-directors on investment, but do not measure this effect in the years immediately following bankers' appointments, raising the possibility of endogeneity bias. Güner et al conclude that (affiliated) banker-directors promote economically inefficient investment by reducing the cash-flow sensitivity of investment at financially unconstrained firms but not financially constrained firms. Our results both contravene and corroborate theirs. Unlike Güner et al, we find some evidence that (narrow-definition) bankers increase investment by financially constrained firms after being appointed as directors. Like Güner et al, we find evidence that bankers may promote inefficient investment by reducing investment by firms in high-growth industries and increasing investment by firms in low-growth industries. Güner et al. obtain their results from a sample of very large non-financial firms. We obtain our results from a sample that is more diverse with respect to size and degrees of financial distress and financial constraint.

C.4. What impact do banker-directors have on Tobin's Q?

Table 10 reports estimated OLS models of changes in firms' (industry-adjusted) Qs. Equations (10.1) and (10.2) were produced from observations on firms with boards having no banker-directors and firms that appointed narrow-definition bankers to their boards; adding observations on firms that appointed extended-definition bankers produced equations (10.3) and (10.4).

Appointing a banker to a board appears to reduce a firm's Q over the next three years, especially if the firm is financially constrained. The estimated coefficients of BANKER(PRED) and KZ-Score * BANKER(PRED) are negative and very weakly significant in equation (10.1)

but negative and highly significant in equation (10.2). Appointing a narrow-definition banker-director reduces a firm's market value two years thereafter (three years thereafter) by $1.55 ($1.95) per dollar of book value at a firm having a KZ-score equal to the median KZ-score for constrained firms; for a firm with KZ-score equal to the median for unconstrained firms, the analogous figures are $0.43 ($0.84). When observations on firms that appointed extended-definition bankers are added to the sample and the models re-estimated, the estimated models yield nearly identical results (equations 10.3 and 10.4)).

Our finding that the appointment of a banker-director reduces the market value of firms, especially financially-constrained firms, is without exact parallel in the literature, although Byrd and Mizruchi (2005) reach a similar conclusion. They estimate models of market-value equity relative to total assets – a variable not identical to Tobin's Q but highly correlated with it – in the year following the appointment of a banker-director (Table 11, B3). They find the larger the fraction of a board held by bankers, the lower the market-value equity-asset ratio the year after bankers' appointments, with reductions greater at more financially distressed firms (firms with lower Altman's Zs).[6] Unlike Byrd and Mizruchi, we find banker-director appointments to be more damaging to the value of financially constrained firms than financially distressed firms. Also, our more diverse sample with respect to firm size and industry allows us to conclude that value reductions caused by banker-director appointments extend beyond large manufacturing firms.

[6] Güner et al. (2006) conclude that affiliated banker-directors damage Tobin's Q at financially-unconstrained firms, but using a completely different methodology. They trace mean (industry-adjusted) Qs of sub-samples of firms with and without banker-directors over a 7-year event window centered around the receipt of a large loan. Unconstrained firms (firms with below-sample-median KZ-scores) with affiliated banker-directors have significantly lower Tobin Qs before and after a loan than those with unaffiliated banker-directors or firms without banker-directors.

IV. Summary and Conclusion

This paper has sought to contribute to the literature on bankers as directors of non-financial corporations by addressing three research questions: 1) What factors are associated with the presence of bankers on boards? 2) What factors lead firms to appoint bankers to boards? 3) How do bankers affect leverage, investment and firm value after being appointed? Previously published papers have examined one or perhaps two of these inter-related questions using data on very large non-financial corporations; we have endeavored to address all three questions using a stratified data sample that includes firms ranging from small to large that are very financially distressed and undistressed – as measured by Ohlson's O-Score (Ohlson 1980) – and very financially constrained and unconstrained – as measured by Kaplan and Zingales' KZ-Score (Kaplan and Zingales, 1997). In addition, previously published papers have varied in their success at dealing with the endogenous nature of board composition and corporate policy and performance measures; we have endeavored to address endogeneity by focusing on the banker-director appointment event and its aftermath using an appropriate statistical technique (instrumental variables).

With respect to our first research question, we find bankers are more likely to sit on boards of larger corporations, as have some other researchers; but unlike them, we find bankers are less likely to sit on boards of firms with high likelihood of financial distress, measured by Ohlson's O-score, or high values of Tobin's Q. Although we find bankers are less likely to serve as directors of smaller firms, we also find they are more likely to serve as directors of small firms that are highly distressed or highly constrained.

Regarding our second research question, we find that large corporations and corporations with low likelihood of financial distress are more likely to appoint bankers as directors, although even financially distressed corporations appoint banker-directors when they are large. We find no evidence that financially constrained firms are motivated either to appoint or avoid appointing bankers as directors, a finding we believe to be unparalleled in the existing literature.

In reference to our third research question, our findings are not entirely encouraging. In the years immediately following bankers' appointments to boards, we find they reduce firms' proclivity for financial distress as measured by O-Score but increase firms' degree of financial constraint as measured by KZ-Score; these findings are novel to the literature. It is not obvious from looking at the components of the O-Score index how banker-directors reduce firms' measured proclivity for financial distress, but looking at the components of the KZ-Score index it appears banker-directors increase the degree of financial constraint at least in part by increasing the book-value leverage ratio. We find that newly-appointed banker-directors increase leverage at corporations generally and at financially-distressed firms in particular; but this leverage increase appears to result from reduced book-equity rather than increased borrowing. We also find that newly-appointed banker-directors change the composition of investment in the years immediately following their appointments, increasing investment by firms in industries with low median Qs (below 1.32) and decreasing it by firms in industries with high median Qs; put differently, banker-directors shift investment away from industries with greater growth opportunities towards industries with lesser growth opportunities. Banker-directors' impact on investment is consistent with our findings regarding their impact on Q: in the years immediately following their appointments, banker-directors reduce Qs at firms generally and at financially-constrained firms in particular. These findings are largely novel to the existing literature.

While we believe our paper presents a coherent inquiry into the motivations for and consequences of placing bankers on boards of directors, we acknowledge at least one area for improvement. Unlike many previous researchers (Booth and Deli, 1999; Kroszner and Strahan, 2001; Byrd and Mizruchi, 2005, Ciamarra, 2006; and Güner et al, 2006) we do not distinguish between affiliated and unaffiliated banker-directors. We hope to address this shortcoming in a later version of this paper.

References

Altman, Edward I., 1968, Financial ratios, discriminant analysis and the prediction of corporate bankruptcy, *The Journal of Finance,* 23, 589-609.

Baker, Malcolm, Jeremy C. Stein and Jeffrey Wurgler, 2003, When does the market matter? Stock prices and the investment of equity-dependent firms, *The Quarterly Journal of Economics,* 118, 969-1005

Begley, Joy, Jin Ming and Susan Watts, 1996, Bankruptcy classification errors in the 1980s: An empirical analysis of Altman's and Ohlson's models, *Review of Accounting Studies,* 1, 267 – 284.

Bharath, Sreedhar, Sandeep Dahiya, Anthony Saunders, and Anand Srinivasan, 2007, So what do I get? The bank's view of lending relationships, *Journal of Financial Economics*, 85, 368-419.

Booth, James R. and Daniel N. Deli, 1999, On executives of financial institutions as outside directors, *Journal of Corporate Finance*, 5, 227-250.

Byrd, Daniel T. and Mark S. Mizruchi, 2005, Bankers on the board and the debt ratio of firms, *Journal of Corporate Finance*, 11, 129-173.

Ciamarra, Elif Sisli, 2006, Monitoring by affiliated bankers on boards of directors: Evidence from corporate financing outcomes, mimeo.

Elyasiani, Elyas and Lawrence Goldberger, 2004, Relationship lending: A survey of the literature, *Journal of Economics and Business*, 56, 315-330.

Fama, Eugene F., and Michael C. Jensen, 1983, Separation of ownership and control, *Journal of Law and Economics*, 26, 301-325.

Fazzari, Steven M., R. Glenn Hubbard and Bruce C. Petersen, 1988, Financing constraints and corporate investment, *Brookings Papers on Economic Activity*, 1:1988, 141-195.

Fich, Eliezer M., 2005, Are some outside directors better than others? Evidence from director appointments by *Fortune* 1000 firms, *The Journal of Business*, 78, 1943-1971.

Gilson, Stuart C., 1990, Bankruptcy, boards, banks, and blockholders, *Journal of Financial Economics*, 27, 355-387.

Güner, A. Burak, Ulrike Malmendier and Geoffrey Tate, 2006, The impact of boards with financial expertise on corporate policies, NBER Working Paper No. 11914.

Kaplan, Steven and B. Minton, 1994, Appointments of outsiders to Japanese boards: Determinants and implications for managers, *Journal of Financial Economics*, 36, 225-258.

Kaplan, Steven N. and Luigi Zingales, 1997, Do investment-cash flow sensitivities provide useful measures of financing constraints? *The Quarterly Journal of Economics*, 112, 169-215.

Korajczyk, Robert A. and Amnon Levy, 2003, Capital structure choice: macroeconomic conditions and financial constraints, *Journal of Financial Economics*, 68, 75-109.

Kroszner, Randall S. and Philip E. Strahan, 2001, Bankers on boards: Monitoring, conflicts of interest, and lender liability, *Journal of Financial Economics*, 62, 415-452.

Lamont, Owen, Christopher Polk and Jesús Saá-Requejo, 2001, Financial constraints and stock returns, *The Review of Financial Studies*, 14, 529-554.

Link, James S., Jeffry M. Netter and Tina Yang, 2007, The determinants of board structure, *Journal of Financial Economics*, forthcoming.

Ohlson, James A. 1980, Financial ratios and the probabilistic prediction of bankruptcy, *Journal of Accounting Research*, 18, 109-131.

Rosenstein, Stuart and Jeffry G. Wyatt, 19990, Outside directors, board independence, and shareholder wealth, *Journal of Financial Economics*, 26, 175-191.

Yermack, David, 2006, Board members and company value, *Financial Markets and Portfolio Management*, 20, 33-47.

Table 1
Mean total assets and percent of banker-directors, by asset-size decile and financial condition

	Mean Assets ($ millions)				% of Firms with Bankers on Boards				% of Firms with Bankers (Ext. Definition) on Boards			
Decile	Distressed	Undistressed	Constrained	Unconstrained	Distressed	Undistressed	Constrained	Unconstrained	Distressed	Undistressed	Constrained	Unconstrained
1	6.2	19.7	27.9	9.2	0.0%	0.0%	16.7%	0.0%	0.0%	8.3%	33.3%	8.3%
2	10.2	54.1	93.8	15.4	8.3%	0.0%	0.0%	8.3%	8.3%	25.0%	0.0%	8.3%
3	15.3	106.8	182.7	24.7	8.3%	0.0%	16.7%	0.0%	16.7%	8.3%	33.3%	16.7%
4	21.9	170.8	333.0	41.6	8.3%	8.3%	25.0%	0.0%	8.3%	41.7%	41.7%	25.0%
5	35.4	276.4	508.8	68.1	8.3%	8.3%	16.7%	0.0%	16.7%	25.0%	16.7%	25.0%
6	56.2	389.8	770.1	121.4	0.0%	16.7%	25.0%	0.0%	0.0%	58.3%	41.7%	8.3%
7	103.8	581.8	1,082.9	199.5	8.3%	25.0%	16.7%	0.0%	16.7%	66.7%	58.3%	41.7%
8	213.5	922.4	1,994.2	402.3	16.7%	8.3%	16.7%	8.3%	25.0%	25.0%	50.0%	33.3%
9	471.2	2,140.8	3,527.5	1,079.7	8.3%	8.3%	8.3%	41.7%	41.7%	25.0%	33.3%	58.3%
10	1,993.3	2,278.8	12,885.3	9,089.4	8.3%	16.7%	33.3%	33.3%	50.0%	41.7%	50.0%	33.3%

Note: Assets are total book-assets for sample firms in 2002. Deciles include 12 firms for every financial-condition type. Narrow -definition bankers are current employees of a commercial bank. Extended-definition bankers are retired or former commercial bankers or directors at a commercial bank.

Table 2
Univariate statistics for financial condition and financial-director variables

	ALL	Distressed	(1)	Undistressed	Constrained	(2)	Unconstrained	S&P 500	(3)	Non-S&P 500
KZ-Score	-4.784	-0.869	b	-5.365	2.031	a	-14.932	-2.824		-4.986
	-0.153	2.484	a	-1.888	1.339	a	-8.570	-0.769	a	0.000
O-Score	0.747	4.585	a	-2.952	0.660		0.696	-1.166	a	0.945
	0.409	3.786	a	-2.797	0.678	a	0.050	-1.212	a	0.570
Banker,	0.113	0.083		0.092	0.192	b	0.083	0.244	a	0.099
Narrow Definition	0.000	0.000		0.000	0.000	b	0.000	0.000		0.000
Banker,	0.388	0.258	b	0.450	0.517	b	0.325	0.756	a	0.349
Extended Def.	0.000	0.000	b	0.000	0.000	c	0.000	0.000	b	0.000
Other Financial	1.292	1.383		1.133	1.519	b	1.133	1.044		1.318
Expert	1.000	1.000		1.000	1.000	b	1.000	1.000		1.000

Note: KZ-Score is described in Kaplan and Zingales (1997) and defined in equation (2). O-score is described by Ohlson (1980) and defined in equation (1). KZ- and O-score are industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. Banker (Narrow Definition) is an indicator variable for a director who is currently employed by a bank. Banker (Extended Definition) is an indicator variable for a director who is a retired or former banker or a director at a commercial bank. Other Financial Expert is an indicator variable for a director currently employed by a non-bank institution. Means (medians) are reported in the first (second) row. a, b, and c denote significance at the 1%, 5%, and 10% levels for a two-sample t-test for means and two-sample Wilcoxon rank-sum test for medians comparing distressed firms relative to undistressed firms (column 1), constrained firms relative to unconstrained firms (column 2), and sample firms in the S&P 500 and non-S&P 500 firms (column 3).

Table 3
Probit models of the presence of bankers on boards based on prior research

	(3.1)	(3.2)	(3.3)	(3.4)
	S&P 500	Non-S&P 500	S&P 500	Non-S&P 500
n	45	435	45	397
CONSTANT	2.435	-1.647	-10.984	0.122
	0.322	0.000	0.000	0.904
LN(TA)	-0.285	0.087	-0.089	0.024
	0.277	0.111	0.775	0.720
LIA/TA	0.368	0.273	1.929	0.001
	0.630	0.177	0.171	0.998
SIC (4)		0.412		
		0.137		
Q	-0.359	-0.199		
	0.048	0.036		
STD DEV			94.003	-5.906
			0.185	0.010
STD DEV ^ 2			-373.903	5.401
			0.229	0.130
PPE/TA			0.935	0.745
			0.668	0.112
PAPER			-0.824	0.624
			0.175	0.356
STD/LTD			-1.302	0.000
			0.490	0.936
Pseudo R^2	0.119	0.075	0.306	0.129

Note: The dependent variable equals one if the firm has a narrow-definition banker on its board and zero otherwise. Narrow-definition bankers are current employees of a commercial bank. The dependent variable is observed in 2002 and the independent variables are measured at the end of 2001. LN(TA) is the natural log of total book-assets. LIA is total liabilities. TA is total book-assets. SIC (4) is an indicator variable for firms having a one-digit SIC equal to 4. STD DEV is the standard deviation of monthly stock returns. PPE is plant, property, and equipment. PAPER is an indicator variable for firms having commercial paper outstanding. STD is short-term debt and LTD is long-term debt. P-values are reported below the estimated coefficients.

Table 4
Univariate statistics for explanatory variables

	No Banker	Banker, Narrow Definition	(1)	Banker, Narrow Defintion	(2)	Banker Ext. Def.	(3)	Banker Ext. Def.	(4)
	Year = 2001	Year = 2001		Year = -1		Year = 2001		Year = -1	
n	345	51		45		135		139	
LN(TA)	-0.039	0.979	a	0.856	a	0.882	a	0.899	a
	-0.102	0.694	a	0.782	a	0.064	a	0.631	a
LIA/TA	0.047	0.079		0.067		0.043		0.021	
	-0.014	0.021	b	0.024		0.021		0.000	
WC/TA	0.015	-0.039		-0.033		-0.007		0.001	
	0.006	-0.014	b	-0.001		-0.008		0.000	
CA/CL	2.061	0.010	b	0.323		0.656	b	0.856	c
	0.068	-0.082	c	-0.035		0.000		0.000	
CASH/PPE	19.569	0.578		3.686		2.203		5.122	
	0.090	-0.017	a	0.000	c	0.000	a	0.000	a
D/E	0.121	0.190		0.125		0.117		0.062	
	-0.021	0.033	b	0.020		0.033	c	0.026	
Q	0.752	0.203	b	0.159	b	0.186	a	0.368	b
	0.116	0.000		0.026		0.000	b	0.023	
NIBD/PPE	-2.581	0.084	b	-0.688		0.248	a	-0.712	b
	-0.046	0.035	b	0.025	b	0.060	a	0.021	a

Table 4 – *Continued*

	No Banker	Banker, Narrow Definition	(1)	Banker, Narrow Definition	(2)	Banker, Ext. Definition	(3)	Banker, Ext. Definition	(4)
	Year = 2001	Year = 2001		Year = -1		Year = 2001		Year = -1	
NI/TA	-0.132	-0.028	c	-0.056		-0.002	a	-0.018	a
	-0.006	0.000		0.008		0.015	a	0.010	a
CHANGE NI	0.007	-0.038		-0.083		0.032		-0.063	
	0.000	-0.011		0.000		0.014		-0.006	
FFO/LIA	-0.380	0.084	b	0.136	b	0.177	a	0.312	a
	-0.037	0.023	b	0.009	b	0.013	a	0.006	a
DIV/PPE	0.083	0.077		0.066		0.082		0.065	
	0.000	0.000	b	0.002	a	0.000	a	0.000	a
KZ-Score	-6.537	-2.636		-4.020		-4.819		-4.339	
	0.000	0.112		-0.203		-0.041		-0.114	
O-Score	0.981	0.102		-0.003		-0.515	a	-0.782	a
	0.373	0.000		-0.076		-0.175	a	-0.309	a

Note: LN(TA) is the natural log of total book-assets. LIA is total liabilities. WC is working capital, current assets (CA) less current liabilities (CL). CASH is cash plus marketable securities. PPE is plant, property, and equipment. D/E is the book value of debt divided by the book value of common equity. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity and DT is deferred taxes. NIBD is net income before depreciation. NI is net income. CHANGE NI is $(NI_0-NI_{-1})/(abs(NI_0)+abs(NI_{-1}))$. FFO is funds from operations. DIV is common dividends plus preferred dividends. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). Means (medians) are reported in the first (second) row. a, b, and c denote significance at the 1%, 5%, and 10% levels for a two-sample t-test for means and two-sample Wilcoxon rank-sum test for medians, comparing banker-firms relative to non-banker firms (columns 1 and 2) and extended-definition banker-firms relative to non-banker firms (column3 and 4). Year = -1 refers to the fiscal year prior to the fiscal year the banker was appointed.

Table 5
Probit models of the presence of bankers on boards

	(5.1)	(5.2)	(5.3)	(5.4)	(5.5)
n	396	396	396	362	480
Constant	-1.062	-1.107	-0.791	-0.402	-1.062
	0.000	0.000	0.000	0.465	0.000
LN(TA)	0.179	0.152			0.185
	0.001	0.002			0.000
LIA/TA	-0.782				-0.136
	0.281				0.797
WC/TA	0.306				0.324
	0.656				0.451
CA/CL	-0.166				-0.036
	0.078				0.039
CASH/PPE	-0.001				0.000
	0.925				0.896
D/E	0.504				0.135
	0.192				0.662
Q	-0.204				-0.205
	0.023				0.001
NIBD/PPE	0.051				0.812
	0.304				0.020
NI/TA	-0.108				-0.154
	0.822				0.687
Change NI	-0.082				0.048
	0.618				0.696
FFO/LIA	0.057				0.170
	0.721				0.052
DIV/PPE	0.194				0.109
	0.589				0.659
KZ-Score		0.027	0.001	-0.003	
		0.303	0.854	0.755	
LN(TA) * KZ-Score		-0.004			
		0.456			

Table 5 -- *Continued*

	(5.1)	(5.2)	(5.3)	(5.4)	(5.5)
O-Score		-0.204	-0.008	-0.017	
		0.020	0.802	0.675	
LN(TA) * O-Score		0.038			
		0.019			
SMALL			-1.515	-1.339	
			0.000	0.094	
CONSTRAIN			0.128	0.154	
			0.585	0.540	
DISTRESS			-0.341	-0.022	
			0.390	0.964	
SMALL*CONSTRAIN			0.964	1.196	
			0.075	0.043	
SMALL*DISTRESS			1.210	1.198	
			0.032	0.083	
O-Score * KZ-Score			0.001	0.001	
			0.464	0.688	
STD DEV				-1.111	
				0.872	
STD DEV ^ 2				-9.799	
				0.602	
SMALL * STD DEV				-3.384	
				0.667	
SMALL * STD DEV ^ 2				13.768	
				0.482	
Pseudo R^2	0.128	0.076	0.124	0.160	0.122

Note: The dependent variable equals one if the firm has a banker on board and zero otherwise. In (5.1) – (5.4) a banker is a current employee of a bank; in (5.5) a banker is a current employee, a retired banker, a former banker, or a director who is also a director at a bank. The dependent variable is observed in 2002; the independent v ariables are measured at the end of 2001 and are all industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. LN(TA) is the natural log of total book-assets. LIA is total liabilities. WC is working capital, current assets (CA) less current liabilities (CL). CASH is cash plus marketable securities. PPE is plant, property, and equipment. D/E is the book value of debt divided by the book value of common equity. Q is (TA+ME- E-DT)/TA; where ME is the market value of equity, E is the book value of common equity and DT is deferred taxes. NIBD is net income before depreciation. NI is net income. CHANGE NI is $(NI_0-NI_{-1})/(abs(NI_0)+abs(NI_{-1}))$. FFO is funds from operations. DIV is common dividends plus preferred dividends. KZ -Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). SMALL equals one if the firm's total book-assets are below the median sample-firm's book assets. CONSTRAIN equals one if the firm's KZ -Score is in the top 20% for all firms in 2002, zero otherwise. DISTRESS equals one if the firm's O-Score is in the top 20% for all firms in 2002, zero otherwise. STD DEV is the standard deviation of monthly stock returns. P-values are reported below the estimated coefficients.

Table 6
Probit models of the appointment of a banker to a board

	(6.1)	(6.2)	(6.3)	(6.4)
n	392	392	392	485
Constant	-1.126	-1.134	-0.895	-0.518
	0.000	0.000	0.000	0.000
LN(TA)	0.164	0.132		0.172
	0.002	0.011		0.000
LIA/TA	0.015			-0.007
	0.982			0.797
WC/TA	0.114			0.282
	0.832			0.472
CA/CL	-0.062			-0.031
	0.145			0.062
CASH/PPE	0.000			0.000
	0.802			0.600
D/E	0.045			-0.088
	0.910			0.778
Q	-0.197			-0.062
	0.033			1.660
NIBD/PPE	-0.004			-0.006
	0.867			0.585
NI/TA	-0.147			0.324
	0.708			0.259
Change NI	-0.135			-0.220
	0.444			0.083
FFO/LIA	0.213			0.075
	0.112			0.095
DIV/PPE	0.218			0.051
	0.538			0.835
KZ-Score		0.020	0.003	
		0.392	0.689	
LN(TA) * KZ-Score		-0.003		
		0.489		

Table 6 – *Continued*

	(6.1)	(6.2)	(6.3)	(6.4)
O-Score		-0.172	-0.023	
		0.037	0.460	
SIZE * O-Score		0.031		
		0.045		
SMALL			-1.154	
			0.001	
CONSTRAIN			0.177	
			0.465	
DISTRESS			0.059	
			0.866	
SMALL*CONSTRAIN			0.150	
			0.799	
SMALL*DISTRESS			0.583	
			0.232	
O-Score * KZ-Score			0.002	
			0.212	
Pseudo R^2	0.094	0.055	0.118	0.086

Note: The dependent variable equals one if the firm appointed a banker to its board and zero otherwise. In (6.1) – (6.3) a banker is a current employee of a bank; in (6.4) a banker is a current employee, a retired banker, a former banker, or a director who is also a director at a bank. For firms that did not appoint bankers the dependent variable is observed in 2002, their base year, and the independent variables are measured at the end of 2001. For firms that did appoint bankers the dependent variable is observed in the appointment year, their appointment year, and the independent variables are measured at the end of the previous year. All independent variables are industry-adjusted by subtracting from a firm-level observation the median industry statistic, where industry is defined at the 3-digit SIC level. LN(TA) is the natural log of total book-assets. LIA is total liabilities. WC is working capital, current assets (CA) less current liabilities (CL). CASH is cash plus marketable securities. PPE is plant, property, and equipment. D/E is the book value of debt divided by the book value of common equity. Q is (TA+ME-E-DT)/TA; where ME is the market value of equity, E is the book value of common equity and DT is deferred taxes. NIBD is net income before depreciation. NI is net income. CHANGE NI is $(NI_0 - NI_{-1})/(abs(NI_0)+abs(NI_{-1}))$. FFO is funds from operations. DIV is common dividends plus preferred dividends. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). SMALL equals one if the firm's total book-assets are below the median sample-firm's book-assets. CONSTRAIN equals one if the firm's KZ-Score is in the top 20% for all firms, zero otherwise. DISTRESS equals one if the firm's O-Score is in the top 20% for all firms, zero otherwise. P-values are reported below the estimated coefficients.

Table 7
OLS models of change in financial constraint and financial distress following appointment of a banker-director

Panel A	O-score		KZ – Score	
	(7.1)	(7.2)	(7.3)	(7.4)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
N	390	390	390	390
Constant	-0.030	0.565	-10.350	-7.269
	0.935	0.074	0.000	0.018
KZ – Score	-0.013	0.001	-0.851	-0.177
	0.425	0.938	0.000	0.427
O-Score	-0.416	-0.559	-0.373	-0.422
	0.000	0.000	0.122	0.401
BANKER (PRED)	-0.549	-2.131	47.708	18.261
	0.842	0.241	0.001	0.281
KZ-Score * BANKER (PRED)			3.981	1.645
			0.009	0.376
O-Score * BANKER (PRED)	1.649	0.182		
	0.308	0.737		
O-Score * KZ-Score	0.004	0.004	0.006	0.058
	0.213	0.136	0.819	0.127
R^2	0.077	0.348	0.218	0.037

Table 7 – *Continued*

Panel B	O-score		KZ - Score	
	(7.5)	(7.6)	(7.7)	(7.8)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
N	485	485	485	485
Constant	0.944	1.210	-13.150	.10.210
	0.094	0.008	0.000	0.013
KZ – Score	0.002	0.009	-0.614	0.037
	0.823	0.414	0.092	0.929
O-Score	-0.321	-0.592	0.115	-0.347
	0.000	0.000	0.522	0.271
BANKER (PRED)	-3.852	-3.476	30.228	20.166
	0.079	0.005	0.001	0.053
KZ-Score * BANKER (PRED)			0.734	-0.100
			0.544	0.947
O-Score * BANKER (PRED)	-0.629	-0.409		
	0.000	0.000		
O-Score * KZ-Score	0.005	0.003	-0.022	-0.006
	0.014	0.039	0.271	0.801
R^2	0.301	0.616	0.204	0.019

Note: In Panel A, a banker is a current employee of a bank; in Panel B, a banker is a current employee, a retired banker, a former banker, or a director who is also a director at a bank. The dependent variable is change in O-Score (equations 7.1, 7.2, 7.5, and 7.6) or change in KZ-Score (equations 7.3, 7.4, 7.7 and 7.8) from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are all industry adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). In Panel A, BANKER (PRED) is the predicted probability of appointing a banker computed from Table 6, equation (6.1); in Panel B, it is the predicted probability of appointing a banker computed from Table 6, equation (6.4). P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 8
OLS models of change in leverage following the appointment of a banker-director

	D/E		D/E	
	(8.1)	(8.2)	(8.3)	(8.4)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
N	390	390	485	485
Constant	-0.215	-0.141	-0.173	-0.149
	0.003	0.039	0.033	0.113
D/E	-0.786	-0.796	-0.659	-0.695
	0.000	0.000	0.000	0.000
KZ – Score	-0.001	0.001	-0.001	0.001
	0.663	0.452	0.654	0.554
O-Score	0.001	0.006	0.014	0.017
	0.917	0.333	0.018	0.003
BANKER (PRED)	1.137	0.766	0.051	0.454
	0.004	0.039	0.020	0.070
Industry Q	0.088	0.089	0.041	0.055
	0.001	0.003	0.051	0.025
PPE/TA	0.090	-0.123	0.021	-0.141
	0.522	0.459	0.860	0.314
LN(TA)	0.022	0.020	0.007	0.004
	0.099	0.103	0.633	0.784
KZ-Score * BANKER (PRED)	0.010	-0.005	0.006	-0.001
	0.424	0.733	0.390	0.919
O-Score * BANKER (PRED)	0.295	0.208	0.001	-0.005
	0.001	0.007	0.949	0.546
R^2	0.519	0.483	0.450	0.447

Note: The dependent variable is the change in the debt-equity ratio from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. D/E is book-value debt divided by book-value common equity. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are industry adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). In (8.1) and (8.2) a banker is a current employee of a bank; in (8.3) and (8.4) a banker is a current employee, a retired banker, a former banker, or a director who is also a director at a bank. In (8.1) and (8.2) BANKER (PRED) is the predicted probability of appointing a banker-director computed from equation (6.1) in Table 6; in (8.3) and (8.4) it is the predicted probability computed from equation (6.4) in Table 6. Industry Q is the median industry Q, defined at the 3-digit SIC level. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity, DT is deferred taxes, and TA is total book-assets. PPE is plant, property and equipment. LN(TA) is the natural log of total book-assets. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 9
OLS models of change in investment following the appointment of a banker-director

Panel A	INV/TA		INV/TA	
	(9.1)	(9.2)	(9.3)	(9.4)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
N	392	392	392	392
Constant	-0.022	-0.027	-0.063	-0.097
	0.236	0.297	0.049	0.042
INV/TA	-0.811	-0.846	-0.823	-0.857
	0.000	0.000	0.000	0.000
KZ-Score	-0.001	-0.001	0.000	0.000
	0.069	0.424	0.379	0.996
O-Score	0.003	0.004	0.002	0.003
	0.376	0.308	0.161	0.226
BANKER (PRED)	-0.049	-0.108	0.283	0.516
	0.366	0.164	0.146	0.055
KZ-Score * BANKER (PRED)	0.011	0.009		
	0.040	0.282		
O-Score * BANKER (PRED)	-0.003	-0.005		
	0.848	0.825		
Industry Q	0.027	0.037	0.054	0.080
	0.025	0.051	0.009	0.011
Industry Q * BANKADD (PRED)			-0.223	-0.392
			0.080	0.025
R^2	0.756	0.594	0.756	0.601

Table 9 -- *Continued*

Panel B	INV/TA		INV/TA	
	(9.5)	(9.6)	(9.7)	(9.8)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
N	487	487	487	487
Constant	-0.013	-0.025	-0.072	-0.123
	0.501	0.316	0.090	0.043
INV/TA	-0.800	-0.838	-0.806	-0.844
	0.000	0.000	0.000	0.000
KZ-Score	-0.002	0.000	0.000	0.000
	0.129	0.732	0.337	0.769
O-Score	0.003	0.005	0.000	0.002
	0.032	0.123	0.759	0.175
BANKER (PRED)	-0.044	-0.054	0.178	0.323
	0.223	0.196	0.174	0.054
KZ-Score * BANKER (PRED)	0.005	0.001		
	0.144	0.873		
O-Score * BANKER (PRED)	-0.004	-0.005		
	0.216	0.210		
Industry Q	0.024	0.033	0.065	0.096
	0.034	0.037	0.026	0.018
Industry Q * BANKER (PRED)			-0.156	-0.245
			0.092	0.030
R^2	0.722	0.576	0.723	0.587

Note: In Panel A, a banker is a current employee of a bank; in Panel B, a banker is a current employee, a retired banker, a former banker, or a director who is also a director at a bank The dependent variable is the change in investment from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. INV/TA is investment divided by total book-assets. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are all industry adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). In Panel A, BANKER (PRED) is the predicted probability of appointing a banker computed from Table 6, equation (6.1); in Panel B, it is the predicted probability of appointing a banker computed from Table 6, equation (6.4). Industry Q is the median industry Q, defined at the 3-digit SIC level. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity, DT is deferred taxes, and TA is total book-assets. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Table 10
OLS models of change in Q following the appointment of a banker-director

	Q		Q	
	(10.1)	(10.2)	(10.3)	(10.4)
change measured:	Yr1-Yr(-1)	Yr2-Yr(-1)	Yr1-Yr(-1)	Yr2-Yr(-1)
n	392	392	487	487
Constant	0.535	0.485	0.770	0.640
	0.001	0.001	0.000	0.000
Q	-0.539	-0.681	-0.587	-0.700
	0.000	0.000	0.000	0.000
KZ-Score	0.018	0.018	0.017	0.019
	0.040	0.005	0.129	0.025
O-Score	0.059	-0.003	0.053	0.002
	0.267	0.939	0.259	0.952
BANKER (PRED)	-1.336	-1.734	-1.550	-1.398
	0.132	0.027	0.002	0.004
KZ-Score * BANKER (PRED)	-0.106	-0.104	-0.041	-0.053
	0.119	0.021	0.316	0.079
O-Score * BANKER (PRED)	-0.149	0.101	-0.059	-0.008
	0.670	0.690	0.250	0.829
R^2	0.271	0.469	0.327	0.485

Note: The dependent variable is the change in Q from the year before the base year, year(-1), to one- or two-years after the base year, year (+1) and year(+2), respectively. Q is (TA+ME-E-DT)/TA where ME is the market value of equity, E is the book value of common equity, DT is deferred taxes, and TA is total book-assets. The base year, year 0, is the appointment year for firms that appointed banker-directors, and 2002 for firms that did not. The independent variables are measured at the end of the year before the base year and are industry adjusted by subtracting from firm-level observations the industry median, where industry is defined at the 3-digit SIC level. KZ-Score is described in Kaplan and Zingales (1997) and is shown in equation (2). O-Score is described in Ohlson (1980) and is shown in equation (1). In (10.1) and (10.2) a banker is a current employee of a bank; in (10.3) and (10.4) a banker is a current employee, a retired banker, a former banker, or a director who is also a director at a bank. In (10.1) and (10.2) BANKER (PRED) is the predicted probability of appointing a banker-director computed from equation (6.1) in Table 6; in (10.3) and (10.4) it is the predicted probability computed from equation (6.4) in Table 6. P-values, reported below the estimated coefficients, are computed using robust standard errors.

Figure 1. Sample Selection Procedure